



Investigación | Estrategias | Soluciones

**The Economy: 2018-2019**  
**Estudios Técnicos, Inc.**  
December 28, 2018

## Introduction

The year 2018 will be the first full year after the hurricanes of September, 2017. Although the word “reconstruction” has been an almost constant one since, Puerto Rico faces a fairly extended period in order to complete the reconstruction of the Island. It is relevant to remember that thirteen years after Katrina (2005), there is still some way to go before the task of reconstructing New Orleans is completed.<sup>1</sup> Our economy, however, is showing signs of improvement. It is still too early to conclude whether the improvement is sustained or a temporary result of the inflow of federal funding.

This brief note examines the performance of some key indicators during 2018 and looks into prospects for 2019. The inflow of federal funds during calendar 2018 has stimulated economic activity in the year and various indicators suggest that the Fiscal Oversight’s estimate of an 8.0% contraction in fiscal 2018 is not reasonable and that growth in the calendar year will be in the neighborhood of “0”. The prospects for 2019 depend on the amount and rate of disbursement of federal funds, but also on external factors both in the global context and in the U.S. The latter have been obscured by the former when looking at our economic prospects. This misappreciation of what matters in economic growth can lead to serious mistakes in projecting prospects beyond 2019 for our economy. It is also relevant to mention that some indicators are showing signs of slowing down in the past two months, possibly a result of the impact of FEMA and insurance payments running out.

## The Impacts of Hurricane María

After analyzing pre-Maria and post-Maria trends as well as preliminary damages and economic impact estimates it appears that the negative economic impact of hurricane Maria was initially overestimated. Better than expected economic performance resulted, primarily, from lower than initial estimates of migration and population loss, as well as adjustments in initial estimates of lost fiscal income and business interruption losses.

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<sup>1</sup> Diane Rehm (2015), *10 Years Later: Hurricane Katrina and The Long Struggle for Recovery in New Orleans* (August 25, 2015). At: <https://dianerehm.org/shows/2015-08-27/10-year-anniversary-of-hurricane-katrina>.

## Damages

Damage estimates have been published by the Puerto Rico Planning Board (PRPB) and by FEMA, (Table 1). The estimated range of damages spans from \$42.3 (PR Planning Board) to \$90.0 billion (FEMA, including U.S. Virgin Islands). These estimates could change in the future as more precise data is available.

In Table 2, Estudios Técnicos, Inc. (ETI) damage estimates are presented, a range of between \$53.8 billion and \$67.6 billion, the latter being the most likely true estimate. In their November, 2018 revision of their initial estimates, the PRPB estimated the total economic impact at \$42.3 billion.<sup>2</sup>

**TABLE 1 – FEMA & PR PLANNING BOARD ESTIMATED DAMAGE**

Concept	Estimates Damages & Lost Income (\$ billions)
Hurricane Irma	\$1.7
Hurricane Maria	\$40.7
Private Sector Estimate	\$5.7
Public Sector Estimate	\$35.0
Net Total - PRPB	\$42.3
Estimated Costs by FEMA*	\$90.0
<b>Damage Range</b>	<b>\$42.3 - \$90</b>

Source: FEMA, "2017 Hurricane Season FEMA After-Action Report", July 12, 2018. PR Planning Board, "Economic Report to the Governor 2017".

\*Includes cost of damages caused by Hurricane Maria to the USVI.

<sup>2</sup> Puerto Rico Planning Board. Actualización Impacto Económico del Huracán María, *Resumen Económico de Puerto Rico* (November 2018), pp. 1-7. At: <http://jp.pr.gov/Resumen-Econ%C3%B3mico>.



**TABLE 2 – ESTUDIOS TÉCNICOS, INC. ESTIMATED DAMAGE**

Concept	Impact María (Lower Bound)	Impact María (Upper Bound)
Infrastructure Damage	\$15,506	\$19,553
Electric	\$1,450	\$1,800
Water	\$60	\$75
Transportation	\$100	\$120
Housing & Other Structures	\$13,496	\$16,991
Communications	\$400	\$567
Economic Damages	\$15,303	\$19,169
Agricultural Output	\$116	\$145
Government	\$1,487	\$1,858
Lost Business Activity	\$13,700	\$17,166
Cost of Reconstruction	\$23,025	\$28,850
<b>Total</b>	<b>\$53,834</b>	<b>\$67,572</b>

Sources: US Federal Emergency Management Agency (1999). *Plan de Acción Presidencial Para la Recuperación a Largo Plazo de Puerto Rico*. PR Planning Board (2001). *Impacto Económico del Huracán Georges 1999*. Acevedo, S. (2016). *Gone With the Wind: Estimating Hurricane Climate Change Costs in the Caribbean* [Working Paper]. Retrieved from the International Monetary Fund Database. <sup>1</sup>Represents lost revenue from stoppages in service, estimated by multiplying a \$30 monthly average telephone bill by 2 months, and multiplying said subtotal by the affected consumers. <sup>2</sup>According to the PR Planning Board, room-nights lost by tourism cancellations were offset by increased room nights from additional assistance personnel. <sup>3</sup>Estimated by assuming partial damages worth 10% of the median household value, and a

The ETI estimate is very similar to both the PRPB and FEMA estimates when certain adjustments are made. For example, adding the cost of reconstruction - included in the ETI estimate of \$67.5 billion - to the PRPB estimate which did not include this cost, yields a very similar number. Likewise excluding from the FEMA estimate the damage to the U.S. Virgin Islands, likewise yields a number not too different from ETI's upper bound figure.

Much confusion has been created due to the varying numbers presented to Congress, including the \$134 billion in the Reconstruction Plan, an original request by the Government for \$94 billion in aid and now the PRPB's number. Agreement on the basic assumptions underlying the estimates would remedy much of the confusion.

#### Flow of reconstruction funds

The October, 2018 certified Fiscal Plan includes \$82 billion in Federal recovery funds. They are expected to be disbursed over ten years, the bulk of it through fiscal 2023.<sup>3</sup> In the initial five years, the Fiscal Plan assumes that \$55 billion will be disbursed, roughly \$11 billion annually.

<sup>3</sup> This will depend on the speed in which the federal requirements are met and funds disbursed.



As of August of 2018, \$43.6 billion in federal funding had been approved, but disbursement has been slower than initially forecast. For example, the initial CDBG-DR allocation of \$1.5 billion will probably not be disbursed before March, 2019. Overall, the following indicators point to a recovering economy that is expected to grow over the next three years thanks in large part to the inflow of recovery funds.

## Economic indicators 2017-2018

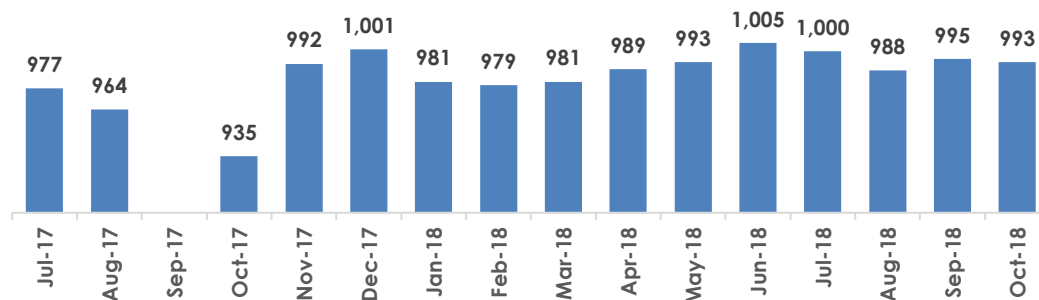
### Employment and unemployment

Total employment (Household Survey) has increased from 981,000 in January to 993,000 in October. The unemployment rate decreased, from 10.7% (NSA) in January, to 8.3% in October. Employment in the construction sector has been above its previous year levels since January.

FIGURE 1

#### Total Household Survey Employment ('000s)

July 2017 - October 2018

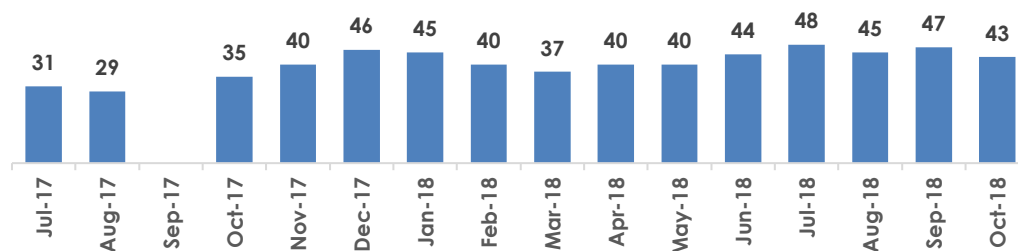


Source: PR Department of Labor & Human Resources (2018). Empleo y Desempleo.  
No survey was performed on september 2017 due to the hurricane.

FIGURE 2

#### Construction Employment ('000s)

July 2017 - October 2018



Source: PR Department of Labor & Human Resources (2018). Empleo y Desempleo.  
No survey was performed on september 2017 due to the hurricane.

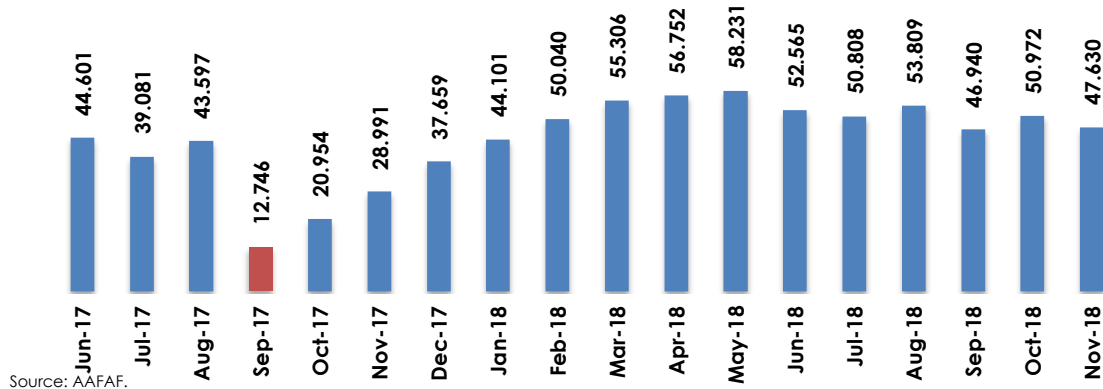
### Cement sales

As is to be expected, sales of cement (In metric tonnes) have surpassed their levels of 2017, although a slowdown has occurred since May, 2018.



FIGURE 3

**Cement Sales After Hurricane María (Ths metric tonnes)**



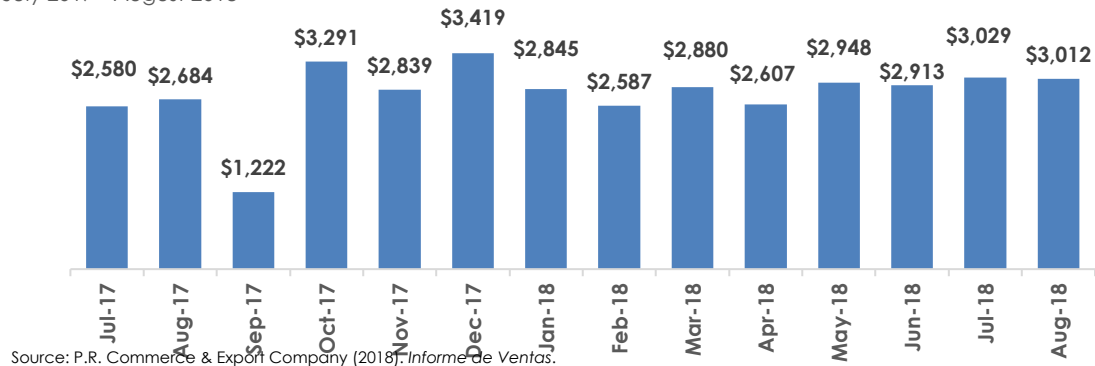
### 1.1 Retail sales

Comparing August, 2018 to August, 2017, the increase in monthly retail sales was 14%.

FIGURE 4

**P.R. Retail Sales (\$ Millions)**

July 2017 - August 2018



### Auto sales

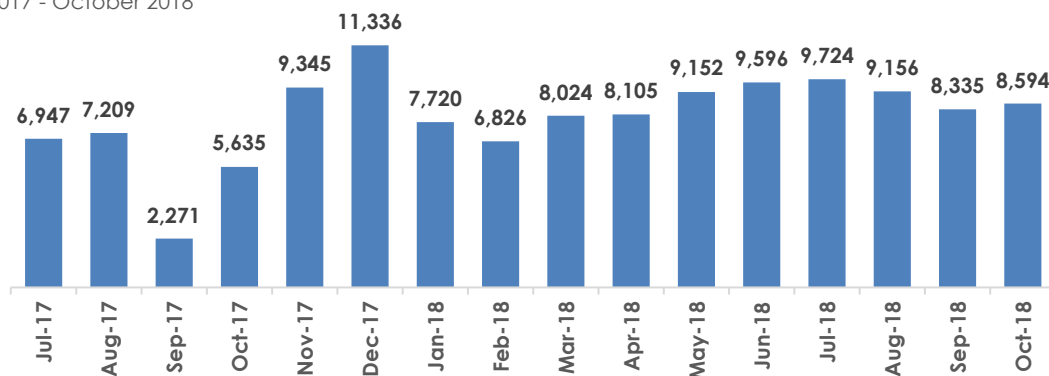
Sales of new automobiles have also expanded at a robust pace. Comparing August, 2017 and August 2018, sales were up by 27.0%. Prospects are for a return to pre-Maria levels by 2019.



FIGURE 5

### New Auto Sales (PR Fleet & Non-Fleet)

July 2017 - October 2018



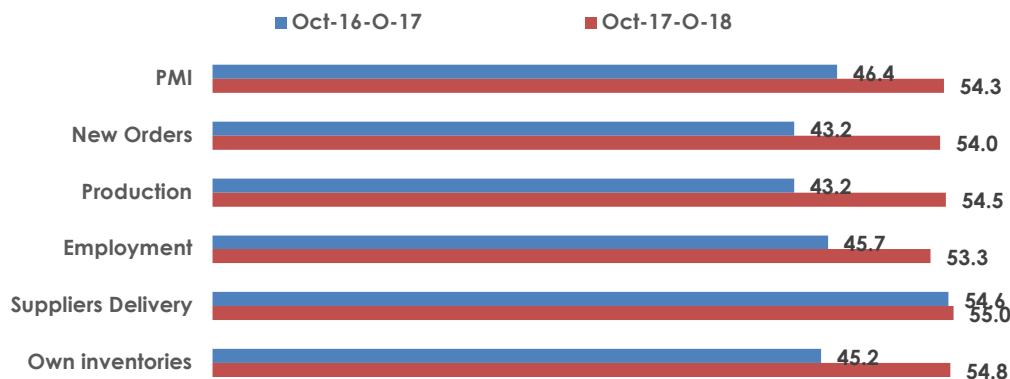
Source: PR GUIA Group (2018). Auto Industry Sales Report.

### Manufacturing – PMI

As suggested by the Purchasing Managers Index (PMI), production in the sector has recovered, with the Index remaining above its threshold level of 50. The New Orders component is also above the expansion threshold, contributing to the upward trend of the general index (a reading below 50 would indicate contraction).

FIGURE 6

### Change in the PMI - Oct-2016 to September 2017, and Oct-2017 to October 2018



Source: Puerto Rico Institute of Statistics.

### Fiscal revenues

In the first four months of fiscal 2019 fiscal revenues were 26.7% over the same period in fiscal 2018. However, the period includes the months when hurricane Irma and Maria hit the Island, reducing retail sales and SUT revenue. However, Figure 8 provides a more meaningful picture of what has actually taken place in



fiscal income. For example, September, 2018 income was almost 47%% higher than that for August, 2017, prior to the hurricanes.

FIGURE 7

**General Fund Net Revenues (Fiscal Years - July - October)**

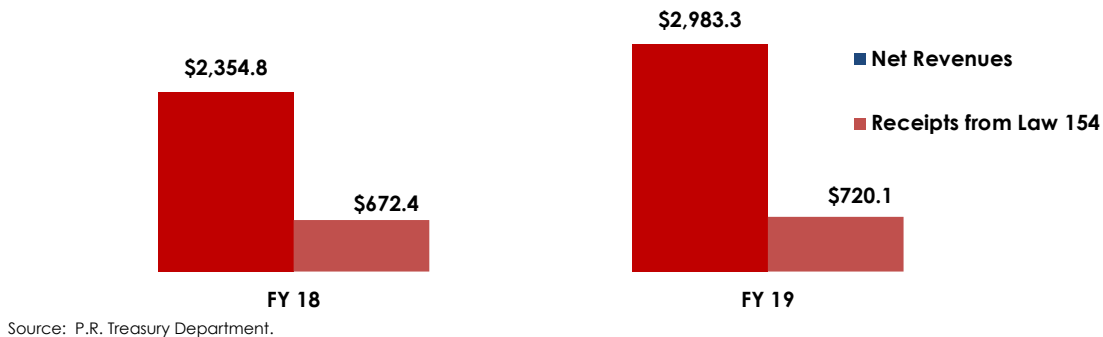
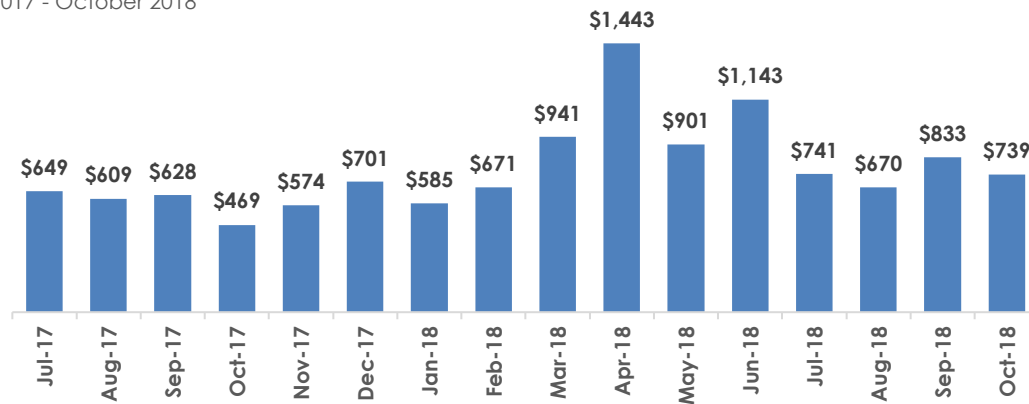


FIGURE 8

**Fiscal Revenues (\$ millions)**

July 2017 - October 2018



Commercial banking system

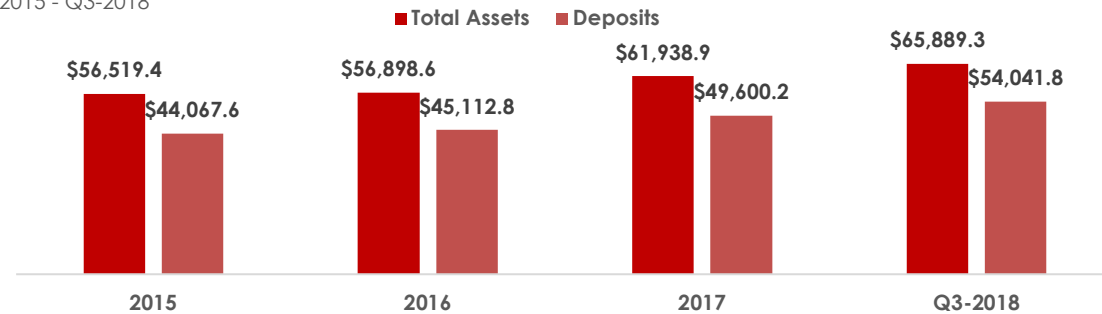
The financial health of the commercial banking system has improved rapidly after September 2017. Both, total assets and total deposits have increased from their levels in 2017.



FIGURE 9

### Commercial Banks Total Assets and Deposits (Millions)

2015 - Q3-2018

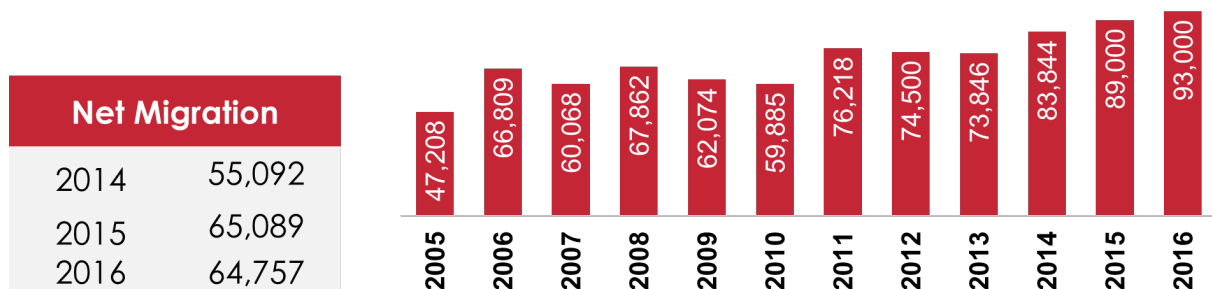


Source: Office of the Commissioner of Financial Institutions (2018). Commercial Banks.

### Emigration and population

The estimate for calendar 2017 is for net out-migration of some 250,000, of which some 175,000 occurred after hurricane María. Net passenger traffic between September, 2017 and March of 2018 was approximately -142,000.

The American Community Survey published its 2017 one-year estimate which indicates a net migration of 68,000. We expect that calendar 2018 should go back to numbers similar to 2015-2016 of net migration of some 60,000 and then return to much smaller numbers.



### Short and medium-term prospects

Puerto Rico's economy is subject to external shocks of different types and these will impact prospects for growth. In the global economy, the uncertainty that has been generated by BREXIT, the trade wars initiated by the Trump Administration, and general upheavals in the Middle East and Europe, all generate a business climate that is not propitious for investment growth. Financial markets in the U.S. and Europe have been characterized by a great deal of volatility, a condition that has also characterized energy markets. The IMF has projected a slowing down of global growth to 2.5%.





The global economy's center of gravity is rapidly shifting towards Asia, particularly China and India. China has become a very aggressive global actor and this is reflected in its insertion in the economies of Latin America and the Caribbean. Recent agreements with the Dominican Republic and Ecuador exemplify this new Chinese role in the region. In both cases China will be financing infrastructure investments. In the case of our immediate neighbor, rum and other exports will benefit.

In the United States, perhaps the most damaging external shock to Puerto Rico has been the approval of the *Tax Cuts and Jobs Act*, the federal tax reform, approved in December, 2017. It does away with Puerto Rico's tax based competitive advantage, both by lowering corporate tax rates in the U.S. and increasing taxes for American firms operating abroad and generating profits from intangible assets developed in the U.S. Puerto Rico is considered a foreign tax jurisdiction and thus will not benefit from measures in the Law that provide incentives for firms bringing back production to the states. In addition, tariffs imposed on aluminum and steel will impact construction costs in the Island and, finally, the threat of increased interest rates is another risk factor.

Although Table 3 provides our projections for 2019 and the following three years, any projection for GNP growth in Puerto Rico is subject to the above factors and, above all to assumptions concerning federal fund amounts and disbursement rates. There is still a great deal of uncertainty concerning the two. A number of the indicators included in this Note began showing signs of a slowdown in the past two months, which could be a harbinger of 2019 economic performance. Most likely 2019 and 2020 numbers in Table 3 will be adjusted downward based on the current pace of federal fund disbursements. There are, of course, other risks that will impact GNP growth, including factors mentioned above that are external to Puerto Rico and that will impact our medium and longer term prospects.

When William Dudley, then President of the New York FED visited Puerto Rico he warned: "*Do not be seduced by temporary federal reconstruction funds*". We should take his advice seriously.



**TABLE 3**

**FEDERAL ASSISTANCE AND IMPACT ON ECONOMIC GROWTH**

	2017p	2018	2019	2020	2021	2022
<b>GNP (Total)</b>	-2.4%	1.5%	5.3%	4.7%	1.0%	0.8%
<b>Consumption</b>	-2.5%	2.4%	2.0%	1.0%	-2.2%	-2.3%
<b>Government</b>	3.3%	15.0%	8.5%	5.4%	5.3%	5.7%
<b>Gross Domestic Investment</b>	-4.4%	36.1%	22.5%	17.8%	13.7%	11.7%
<b>Construction</b>	-12.6%	84.0%	52.8%	38.4%	23.4%	17.4%
<b>Public</b>	-16.5%	218.5%	86.7%	51.8%	29.9%	21.5%
<b>Private</b>	-10.6%	20.1%	10.3%	9.8%	4.3%	2.3%
<b>Exports</b>	-0.2%	-14.8%	1.8%	1.0%	0.8%	0.1%
<b>Imports</b>	-0.8%	-0.8%	4.0%	2.5%	1.6%	1.4%

Sources: PR Planning Board (2018). 2017 Statistical Appendix [Table 1]. Estimates by Estudios Técnicos, Inc. (Aug 16, 2018). P = Preliminary

